

REMARKS/ARGUMENTS

Claim 1 was rejected under 35 USC §103(a) as unpatentable over Prior Art (admission), Walter and Rashid.

Claim 1 relates to a power supply device incorporated in a vehicle driven by an internal combustion engine comprising: a first power supply system that uses a first generation coil provided in a generator driven by the internal combustion engine for driving a vehicle as a power source to supply DC power to a power supply line that provides a power supply voltage to an electrical load or electrical loads provided in the vehicle; and a second power supply system that uses a second generation coil provided in the generator as a power source to supply an AC power to an external load.

Claim 1 provides a power supply circuit for assistance that supplies a DC output having a voltage value equal to or close to a rated value of an output voltage of a first power supply system, from a second power supply system to the power supply line, to assist said first power supply system, when an output of the first power supply system is insufficient and the first generation coil is provided so as to generate an output necessary for driving an electrical load when a rotational speed of the internal combustion engine exceeds a set rotational speed.

According to Claim 1, since the first generation coil that is used as the power source of the first power supply system can be small, and sufficient power can be supplied to the electrical component when the engine is operated at a low speed, the first generation coil and the second generation coil can be placed in a common generator without increasing the size of the generator.

Claim 1 was rejected as being unpatentable over Prior Art (admission), Walter and Rashid. However, neither Walter nor Rashid teach that the size of the first generation coil may be reduced by supplying electric power from the second power supply system to the power supply line of the first power supply system, to assist when the first power supply system is short of output.

Prior Art (admission) discloses two electric power supply systems. An electric power supply system for a vehicle load and an electric power supply system for an external load. However it does not teach that electric power for assisting is supplied from the electric power supply system for the external load to a power supply line of the electric power supply system for the vehicle load, when an output of the electric power supply system for the vehicle load is short.

Walter discloses an inverter system in which electric power is supplied from two identical power supply systems (12, 14) to one or both of two receptacles (64, 66). A voltage which is a sum of both power supply systems is supplied to the receptacle 68, as described in Column 4, lines 4-5. Since the two power supply systems provided in the system of Walter are identical in construction, Walter does not contemplate a generation coil which is a power source for one of the power supply systems to be miniaturized by providing a circuit for supplying an electric power for assisting from one power supply system to the other power supply system when an output from the other power supply system is short. Thus, Walter does not teach that the size of the first generation coil may be reduced by supplying, from the second power supply system to the power supply line of the first power supply system, electric power to assist, when the first power supply system is short of output.

Rashid discloses an exciter type AC generator which supplies electric power from a generation coil 58 of a permanent magnet generator 46 to a field coil 52 of an exciter 44 through a GCU 22. In the generator disclosed in Rashid, the generation coil 58 of the magneto generator 46 supplies the electric power only to the field coil 52 of the exciter, not to an external load. In addition, the generation coil 50 supplies an electric power to the external load, but does not supply the electric power for assisting to the field coil 62 when the output from the generation coil 58 of the magneto generator 46 is short. As apparent from FIG. 4 of Rashid, the wiring connecting across the generation coil 50 and the GCU 22 is provided for supplying an output of a sensor 62 for detecting an output voltage of the generation coil to the GCU 22, not for supplying the electric power for assisting from the generation coil 50 to the field coil 52. Thus, Rashid does not teach that an electric power for assisting

is provided from one power supply system to the other power supply system when an output from the other power supply system is short.

As aforementioned, since Walter and Rashid do not teach that a circuit for supplying an electric power for assisting from one power supply system to the other power supply system is provided when an output from the other power supply system is short, the power supply system according to the present invention cannot be obtained by incorporating Walter and Rashid into the Prior Art (admission).

The invention disclosed in Claim 2 relates to a power supply device incorporated in a vehicle driven by an internal combustion engine comprising: a first power supply system that uses a first generation coil provided in a generator driven by the internal combustion engine as a power source to supply DC power to a power supply line that provides a power supply voltage to an electrical load or electrical loads provided in the vehicle; and a second power supply system that uses a second generation coil provided in another generator driven by the internal combustion engine as a power source to supply an AC power to an external load.

Claim 2 provides a power supply circuit for assistance that supplies a DC output having a voltage value equal to or close to a rated value of an output voltage of the first power supply system, from the second power supply system to the power supply line, to assist the first power supply system, when an output of the first power supply system is insufficient. The first generation coil is provided so as to generate an output necessary for driving the electrical load when a rotational speed of the internal combustion engine exceeds a set rotational speed.

The invention in Claim 2 is rejected as being unpatentable over prior Art (admission) and Walter. However, Walter does not teach that the size of the first generation coil may be reduced by supplying electric power from the second power supply system to the power supply line of the first power supply system, to assist when the first power supply system is short of output.

As stated above, since the two power supply systems provided in the system of Walter are identical in construction, Walter does not contemplate a generation

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coil, which is the power source for one of the power supply systems, to be miniaturized by providing the circuit for supplying the electric power for assisting from one power supply system to the other power supply system when the output from the other power supply system is short. Thus, the power supply system according to the present invention cannot be obtained by incorporating Walter into the Prior Art (admission).

For the reasons stated it is believed that this application is now in condition for allowance and allowance of the this application is respectfully requested.

If there are any fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 35985.

Respectfully submitted,
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